## DRAWINGS

**Amendments to the Drawings:**

The attached sheet of drawings includes changes to Fig. 7. This sheet, which includes FIG. 7 and FIG. 8, replaces the original sheet including FIG. 7 and FIG. 8. In FIG. 7, the boxes 704 and 710 have been corrected.

Attachment: Replacement Sheet
Annotated Sheet Showing Changes

## REMARKS

Upon entry of the instant Amendment, Claims 1-11 are pending. Claims 4 and 6 have been amended to overcome the Section 112 rejections. Claims 1, 4, 6, and 10 have been amended to more particularly point out applicant's invention. The drawings have been amended to correct an inconsistency with the text of the Specification. No new matter has been added.

The drawings were objected to because the text in the flowchart of FIG. 7 did not correspond to that in the text of the specification. FIG. 7 has been amended to reflect the specification. No new matter has been added.

Claims 4 and 6 were objected to because of various informalities. Claims 4 and 6 have been amended to correct the informalities. Thus, the basis for the objection is obviated.

Claims 1 and 2 were rejected under 35 U.S.C. 102(b) as being anticipated by deLantremange, U.S. Patent No. 5,970,093 ("deLantremange"). Applicant notes that the Official Action refers to a "public use or sale of the invention." Since the Official Action cites deLantremange, Applicant presumes that the Official Action intends to refer to the "printed publication" branch of Section 102(b). In any case, Applicant respectfully submits that there has been no public use, sale, or description of the invention in a printed publication prior to the critical date.

In order for there to be anticipation, each and every element of the claimed invention must be present in a single prior reference. Applicants respectfully submit that the claimed invention is not taught, suggested, or implied by deLantremange. As described in the Specification, aspects of the present invention relate to a transmit filter that substantially reduces intersymbol interference. The generation of the filter coefficients occurs during calibration, for example, at the factory. The filter response is generated by constraining the coefficients in their adaptation at the optimal sampling point and unconstraining them elsewhere. That is, the error metric is updated only at

the optimum sampling point rather than at every sample. According to one embodiment, a shaping filter is derived from the complex conjugate of an initial filter and convolving the initial filter with a data sequence representative of, or modeling, channel noise. Thus, claim 1 has been amended to recite "determining a level of intersymbol interference for a final shaping filter where said final shaping filter is obtained by further processing said initial shaping filter, including generating a data sequence for modeling channel noise." In contrast, deLantremange does not appear to, inter alia, process an initial shaping filter by generating a data sequence for modeling channel noise. While deLantremange provides an adaptive filter, coefficients do not appear to be generated, e.g., by convolving with a model of channel noise, as generally recited in the claims at issue. As such, the Examiner is respectfully requested to reconsider and withdraw the rejection.

Claim 3 has been rejected under 35 U.S.C. 103(a) as being unpatentable over deLantremange in view of Segal, U.S. Patent No. 6,647,069 ("Segal"). Applicant respectfully submits that the claimed invention is not taught, suggested or implied by deLantremange or Segal, either singly or in combination. Segal is relied on for allegedly teaching convolving a spectral shaping filter with its matched filter. However, like deLantremange, Segal does not appear to process an initial shaping filter by generating a data sequence for modeling channel noise. As such, the Examiner is respectfully requested to reconsider and withdraw the rejection.

Claims 4 and 5 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Segal, deLantremange, and further in view of Kuenast, U.S. Patent No. 5,027,369 ("Kuenast"). Applicant respectfully submits that the claimed invention is not taught, suggested or implied by deLantremange, Segal, or Kuenast, either singly or in combination. Claim 4 has been amended to recite "generating a data sequence, said data sequence comprising a channel noise model."

DeLantremange and Segal have been discussed above. Kuenast is relied on for alledly teaching a data sequence to be convolved with a shaping filter. However,

Kuenast does not appear to generate a data sequence for modeling channel noise; while Kuenast recites "a plurality of update and convolution operations," Kuenast does not appear to indicate that these are with a data sequence that models channel noise. As such, the Examiner is respectfully requested to reconsider and withdraw the rejection.

. Claim 6 is rejected under 35 U.S.C. 103(a) a being unpatentable over Marchok, U.S. Patent No. 5,912,920 ("Marchok") in view of deLantremange. Applicant respectfully submits that the claimed invention is not taught, suggested or implied by deLantremange or Marchok, either singly or in combination. Claim 6 has been amended to recite "a shaping filter for shaping said coded data, the shaping filter generated by constraining the filter coefficients in their adaptation at the optimal sampling point and not constraining them at the non-sampling points, an initial shaping filter comprising a channel noise model shaping filter for minimizing intersymbol interference." DeLantremange has been discussed above. Marchok is relied on for teaching "shaping filters." However, like deLantremange, Marchok does not appear to relate to "an initial shaping filter comprising a channel noise model shaping filter for minimizing intersymbol interference." As such, the Examiner is respectfully requested to reconsider and withdraw the rejection.

Claims 7, 8, and 9 were rejected under 35 U.S.C. 103(a) as being unpatentable over Marchok and deLantremange, and further in view of Segal. Applicant respectfully submits that the claimed invention is not taught, suggested or implied by deLantremange, Marchok, or Segal, either singly or in combination. As discussed above, none of the references appear to relate to "an initial shaping filter comprising a channel noise model shaping filter for minimizing intersymbol interference." As such, the Examiner is respectfully requested to reconsider and withdraw the rejection.

Claims 10 and 11 were rejected under 35 U.S.C. 103(a) as being unpatentable over Segal, Kuenast, deLantremange, and further in view of Sehier, U.S. Patent No. 5,933,467 ("Sehier"). Applicant respectfully submits that the claimed invention is not

taught, suggested or implied by Segal, Kueanst, deLantremange or Sehier, either singly or in combination. Claim 10 has been amended to recite "first convolving said initial filter with its complex conjugate to obtain an initial shaping filter;

second convolving said initial filter with a data sequence, said data sequence comprising a channel noise model."

Sehier is relied on for allegedly teaching a complex conjugate filter. However, like Segal, Kuenast, deLantremange, Sehier does not appear to relate to a second convolving, the second convolving being that of a data sequence that models channel noise. As such, the Examiner is respectfully requested to reconsider and withdraw the rejection.

For all of the above reasons, Applicants respectfully submit that the application is in condition for allowance, which allowance is earnestly solicited.

Respectfully requested,

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Annotated Sheet





FIG. 7

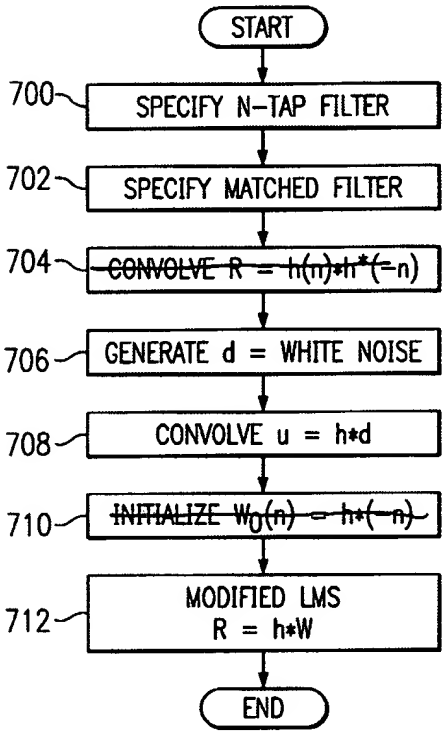


FIG. 8